ME3205 - Hydrometeorology

<table>
<tr><td colspan="5">COURSE LESSON PLAN
STUDY PROGRAM: METEOROLOGY
FACULTY/SCHOOL: FACULTY OF EARTH SCIENCES AND TECHNOLOGY
INSTITUT TEKNOLOGI BANDUNG</td></tr>
<tr><td colspan="2">Course Code: ME3205</td><td>Credits: 3</td><td>Semester: 6</td><td>Course Type: Compulsory course</td></tr>
<tr><td colspan="2" rowspan="2">Course Name</td><td colspan="3">Hidrometeorologi</td></tr>
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<tr><td colspan="2">Related Course</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td colspan="2" rowspan="3">Study Materials</td><td colspan="2">Large-scale hydrological cycle analysis using the water balance method, covering all hydrological variables: rainfall, evapotranspirasi, infiltration, subsurface flow (groundwater), and surface runoff.</td><td>Expose</td></tr>
<tr><td colspan="2">Small-scale hydrological cycle analysis focusing on extreme conditions, involving two variables: rainfall and surface runoff, and</td><td>Expose</td></tr>
<tr><td colspan="2">Their relationship to flooding and drought.</td><td>Explore</td></tr>
<tr><td colspan="5">Learning Outcomes</td></tr>
<tr><td colspan="2">Code</td><td colspan="3">LO</td></tr>
<tr><td colspan="2">PLO-1.1</td><td colspan="3">Able to use basic science and mathematics as a foundation for understanding the fundamentals of meteorology. (C3)</td></tr>
<tr><td colspan="2">PLO-2.1</td><td colspan="3">Able to describe the atmosphere and weather and climate phenomena. (C2)</td></tr>
<tr><td colspan="2">PLO-3.2</td><td colspan="3">Able to process large-scale digital weather and climate data to understand weather and climate phenomena. (C3)</td></tr>
<tr><td>Code</td><td>CO</td><td colspan="3">Elements of Course Learning Outcomes (CO)</td></tr>
<tr><td>PLO-1.1</td><td>1</td><td colspan="3">Students are able to derive the evaporation and water balance equations. (C3)</td></tr>
<tr><td rowspan="2">PLO-2.1</td><td>2</td><td colspan="3">Students are able to explain the role of meteorological parameters in the hydrological cycle at large and small scales. (C2)</td></tr>
<tr><td>3</td><td colspan="3">Students are able to explain rainfall observation and river discharge. (C2)</td></tr>
<tr><td rowspan="2">PLO-3.2</td><td>4</td><td colspan="3">Students are able to process rainfall, infiltration, and surface runoff data. (C3)</td></tr>
<tr><td>5</td><td colspan="3">Students are able to calculate water availability, drought potential, and flood potential. (C4)</td></tr>
<tr><td colspan="2">Learning Methods</td><td colspan="3">Lecture
Group Discussion
Cooperative Learning
Problem-based Learning</td></tr>
<tr><td colspan="2">Learning Modalities</td><td colspan="3">Synchronous learning
Blended/Online Asynchronous</td></tr>
<tr><td colspan="2">Assessment Method</td><td colspan="3">Assessment components: Midterm Examination (35%), Final Examination (40%), Assignments (20%), and Quizzes (5%). Grading Scale: 80–100% A (maximum competency) 65-75% B (good competency) 60-65% BC (satisfactory competency) 55–60% C (minimum competency) 45–54% D (below minimum competency) <45% E (far below minimum competency)</td></tr>
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